Remarks

Responsiveness

The claims examined in the above identified Office action and the present submitted claims have overlapping claim elements. However, in the interest of clarity and claiming subject matter of appropriate breadth, new claims have been submitted rather than amending claims. The issues as to patentability remain the same.

The present claims are not Anticipated

A review of the cited reference indicates that the claims at issue are not anticipated by the cited reference.

A claim is anticipated only if each and every element as set forth in the claim is found in a single cited art reference. See *Verdegaal Bros. v. Union Oil of California*, 814 F.2d 628, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the claim. See *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

One element, the biochip support, is not even mentioned in the Office action. Given that nothing is cited which discloses this element, this alone is sufficient reason for reconsideration of the present rejection.

Under the cited law, the identical invention must be disclosed in the cited reference in as complete detail as is found in the claim for a claim to be anticipated. In the present instance, not only is a biochip support claimed, but the claimed illumination source is also defined in the claims having specific configuration in relation to the biochip support and the collection lens. This claimed configuration is simply not disclosed in the cited reference.

The cited reference, Higuchi et al. discloses a device for monitoring multiple nucleic acid amplifications

simultaneously. See abstract. The nucleic acid samples to be amplified and reagents for PCR or other amplification reaction are introduced into sample tubes. See col. 18, lines 50-55. The sample tubes are held in a grid of holes in a thermal block. The illumination and imaging optics then must introduce illumination light and collect emitted light from the open ends of the sample tubes. See col. 19, lines 1, 2.

Although this is an appropriate configuration for a thermal cycling nucleic acid amplification device, it places certain limitations on the system. First, the level of liquid within each tube will be difficult to remain uniform. The temperature within the heating block commonly does not remain uniform. Instead the edges are often cooler than the center of the block. Even with efforts to mitigate evaporation, such as the addition of a wax or oil on top of the tube, uneven evaporation will cause the level of liquid within the tubes to change. In the cited reference the non-uniform conditions are not important because the illumination and collection of light is from a relatively large targets, namely sample amplification tubes. For these reasons, the system is configured to not collect light from a planar sample surface but from the open tops of the tubes. Because of the relatively large size of the sample tubes and relatively small number of tubes detected, collection of light from the open ends of tubes and subsequent imaging onto a detector allows assay of the contents of these tubes.

The cited reference teaches an apparatus adapted for a very different purpose than the claimed invention. While the claimed invention is adapted for the analysis of a planar array of samples on a planar substrate, the cited reference is dedicated to a system for real time analysis of a relatively few tubes. As a result, certain claimed elements are simply not found in the cited reference.

First, the cited reference does not disclose a sample holder for holding a sample substrate. Instead, as

noted, the cited reference teaches a thermal block having a plurality of holes for receiving tubes. This is not suited for holding a sample substrate.

Second, the cited reference does not teach an illumination source configured to illuminate a sample substrate surface. Instead, the system must illuminate within tubes while a reaction is taking place.

Third, the cited reference does not teach a light collector designed to collect light from a substrate plane. Instead, as noted, light is collected from the open ends of tubes.

As noted, a reference can only anticipate a claim if the entirety of the claim is found in the cited reference. In the present instance, a number of positively claimed elements are simply not present in the cited reference. Given this fact, the present rejection should be reconsidered and withdrawn.

Dependent claims

In the dependent claims, the biochip support is further defined. Namely, a drawer structure is claimed as the support in claims 7 and 14. Nothing in the cited reference comes close to disclosing this structure. The cited reference requires that the samples be in tubes deposited in holes in a thermal block connected to a power source. The claimed structure is not compatible with the device cited in the claimed reference.

The present claims are also not rendered Obvious

As noted above, the cited reference does not disclose at lease one element of the applicants' claims. Given this fact, these claims are neither anticipated nor rendered obvious by the cited reference.

Conclusion

The submitted new claims and remarks warrant reconsideration of the present rejection. A notice of allowance is earnestly solicited. If the Examiner would like to discuss this matter, please feel free to call the undersigned attorney at (408) 297-9733 between 9 am and 5 pm Pacific Time.

Respectfully submitted,

CERTIFICATE OF MAILING

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Signed: Merle P. Garcia
Typed Name: Merle P. Garcia

Date: June 24, 2004

David Schneck
Reg. No. 43,094

Schneck & Schneck
P.O. Box 2-E
San Jose, CA 95109-0005
(408) 297-9733